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\* INDIANA SINCLAIR-TIMEX NEWSLETTER \*  
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Dec '88-Jan '89

Editor-Frank Davis  
Assist - M. Felerski

This issue....

Next meeting and membership dues  
Editorial by Frank Davis, and Sinclair news  
Mike Felerski's conversions for Wafadrive, Vu-Calc  
Improving "Linear Search" by Steven Petrovic, TS1000

I. S. T. U. G. MEETING

Due to lack of demand, there was no December meeting, as has been our tradition the last few years. It's really hard to get a bunch of people together for a meeting in December, especially when the library wants to schedule us on New Years Eve. We have gotten a bit behind on the newsletter, but are now back on track with hopes of staying that way. We need to have people pay their dues as that is what puts out the newsletter. It costs to copy things, first class postage, etc. As I do not do this as a charity action, it must pay its own way. I will mark your address label if you are overdue. The dues for just the newsletter, with no meetings or access to our Sinclair library, dues are \$7.50 per year. For Full Membership, dues are \$10.00 a year. In June they will be going up to \$9.00 for Associate Member and to \$12.00 for Full Membership. Pay up now and avoid the only price increase we have ever had. Remember...we send out our newsletter First Class, not bulk rate mail (which can mean up to a six week wait on delivery)! We have picked up 5 new members in the last three months (so we are not a dead or dying group) and now just need to get more of you to attend some meetings. At times I feel like I am putting out just a newsletter to a lot of unknown people. I want to meet more of you, even if it is just by phone or letter. In an upcoming issue we will have our annual names and address of ISTUG members, and this can be of help when you need to make that call for help with that stubborn program you just cannot get to work right.

The January meeting was held at the Eagledale Public Library on January 28th. Mike Felerski, Paul Holmgren, George Love, Frank Davis and one unknown visitor with a TS1000 were there. In order to keep the library as a meeting place we need to have more people than that. Part of the low attendance at this meeting was that we did not get the OKAY from the library soon enough to put the place and date in the last newsletter. So, I ended up calling people long distance and only found so many home. Everyone I was able to get hold of..showed up! Low attendance has had us bumped from the library for the months February, March and April, and trying to get a different time or date there for May. We have the library for June, July, August, September, October, November, with no December meeting.

The February meeting will be held at 1:30 PM on Feb. 25 at the home of Willie Jones, 10126 E. 33rd St., Indianapolis, IN 46236. If you need directions call Willie at 317-897-9225 or Paul Holmgren at 317-291-6002. Call Frank at 317-473-8031 to volunteer to hold the March or April meeting at your home.

## EDITORIAL by Frank Davis

Have you thought about "upgrading your Sinclair System for a Commodore, Atari, or an IBM?"

Give this thought the toss, as I do not think it is really what you want to do. Perhaps you have even felt pressured by friends or family to do so...maybe they have even told you of "all the things and software you could have". Grab hold of a few magazines or Computer Shopper and check out the prices for hardware and software. If you are one of those who have been reluctant to pay a decent price for Sinclair software, then you will not want to pay prices of \$149 for things like a disk of disk utilities, or \$40 to \$75 for a game. Get a copy of Sinclair User from RMG or Curry Computer and make an order to England for some Spectrum Software. Get Jack Dohaneys Catalog, Stan Lemkes Byte Powers, RMGs, Sharps, Time Designs, John McMichaels, Emsoft, Zebra Systems Inc., T & C Services, V P Hosey, WMJ Data Systems-TD, A.F.R. Software, UPDATE, Herb Bowers, Promise Land Electronics, Bottle-Cap Software, Zunk Custom Electronics, Ed Grey Enterprises. Order something from them and keep them in business. These are just the dealers listed in the most recent issue of Time Designs Magazine, and are not the end of the list. Want their address? Send me a large SASE, or write Time Designs Magazine.

Looking for Public Domain software, then you have two known options. One is join and be active in a Computer User Group. If you ask them for copies of public domain software, then be patient. You are dealing with people doing this for free or for the cost of doing so (at the most putting a dollar or two into a club account to acquire tapes and disks to store programs on). They all hold down regular jobs and have families, which means they fill an order on a basis of when they can get some spare time. For ISTUG, our preferred way of sending out public domain programs is on JLO 5 1/4 disk, DSDD or DSQD. If you want it on tape then expect it to take longer, as each program has to be loaded, BREAK, then SAVED, then VERIFIED... one at a time. On Disk I can do over a thousand programs in an hour or two. On other media such as wafers for the A & J 1000 and 2000, Wafadrive or Microdrives for the QL, then you would need to provide the media.

~~The second way to get public domain programs is to join~~ SNUG, and check out the libraries they are compiling. Paul Holmgren of ISTUG is acting as Vice-President and Frank Davis is the Head Librarian. Several other members of ISTUG have also joined SNUG. They will soon be having the national election to pick the officers for the next year, but to vote or run for office you need to join first. There will be no selling their Public Domain Library or other services to non-members. To do other than this is to cripple such a group.

Remember the IBM emulator mentioned as a rumour an issue or two ago, it is now being sold by Sharps for \$149.95 and you will need disk drives and added memory. This gives you access to QL and IBM software! I hope that RMG will soon be handling this, as well as others. Of very bad news to me is that the price of the Trump Card has taken a \$200 raise in price and QL prices have been raised uniformly by those dealers who still have them. Sharps have lowered the price of their CPM emulator to \$59.95, which along with an IBM emulator gives you access to quite a bit of software for your QL. Buy it some spare parts for in the future and you have a machine which will not be outdated for quite some time.

## Tricks of the Trade: Converting VU-Calc

As I mentioned in my last article on Tricks of the Trade, I plan to discuss in this issue the conversion of VU-Calc to run on the Spectrum Emulated TS2068 with Rotronics Wafadrive.

Previously I talked about information regarding the conversion of Spectrum versions of the programs that was published at the time when the Wafadrive Systems were available in the States. The methods that I discuss, use the TS2068 versions of the software, and thus often require less work than previously published methods.

Before I begin the steps of converting VU-Calc to run on the Wafadrive system, I would first like to explain the ideas behind the conversions. As you know, both the ZX Spectrum and the Timex-Sinclair 2068 each contain basically 16K of ROM used for the Operating System and the rest of the address space is for RAM (ignoring for now the bank switching capabilities of the 2068). The first 7K of RAM on both machines contain the Display File, Attribute File, the Printer Buffer, and the System Variables. After this, the two systems begin to differ.

The TS2068 then sets up memory space to hold a Secondary Display and Attribute File. The Spectrum on the other hand sets up space for the Microdrive Maps, which is smaller, and thus affords the Spectrum more RAM to program with over the 2068.

When programs such as VU-File and VU-Calc were originally converted over to run on the 2068 from the Spectrum version, the programs were not rewritten to take advantage of the expanded features of the 2068, they were just made smaller to fit.

What all this means to the Wafadrive owner is that the 2K of overhead RAM required by the WOS (Wafadrive Operating System) does not hinder the operation of the TS2068 versions of the programs because these versions are already smaller. This is what makes the conversions easier than with the Spectrum versions.

First, set up your system and initialize the Wafadrive with:

NEW\* <ENTER>

Next, LOAD"" the first (BASIC) part of your TS2068 VU-Calc program and BREAK the program when it begins searching for the CODE file which comes next. Now type in:

INK 7 <ENTER>

Now we can list the program and make changes to lines 10, 1000, 1100, and 4000, as follows:

```
10 CLEAR VAL "29327": BORDER LN PI: PAPER LN PI: INK VAL "7": CLS  
: LOAD *"VU CALC": GO TO VAL "3200"
```

```
1000 GO SUB VAL "1100": LOAD *a$: CLS: GO TO USR e2
```

```
1100 GO SUB VAL "1200": CAT *: PRINT "" "ENTER Data file name":  
INPUT a$: RETURN
```

```
4000 GO SUB VAL "1100": SAVE *a$,zz,(PEEK bfre+256*PEEK  
(bfre+1)-zz): CLS: GO TO USR e2
```

Now, here is where a bit of trickery can come into play. If we wish to COPY a screen using the DRAW\* code and command to a full size printer (via the Wafadrive's Centronics port) we must change lines 10 and 2000, and then add two lines to the end of the program as follows:

```
10 CLEAR VAL "29327": BORDER LN PI: PAPER LN PI: INK VAL "7": CLS  
: LOAD *"VU CALC": LOAD *"COPY CODE": GO TO VAL "3200"
```

```
2000 GO SUB VAL "9990": DRAW *: BORDER 1: GO TO USR e3
```

Add lines:

```
9990 POKE VAL "23296",VAL "2": POKE VAL "23297",VAL "5": POKE  
VAL "23298",VAL "76": POKE VAL "23299",VAL "0": POKE VAL  
"23398",VAL "168"
```

```
9991 RETURN
```

The DRAW\* command comes from code loaded from the Rotronics Toolkit Wafer or can be typed in from the Wafadrive Bulletin. In my version, I loaded the code from the wafer, (into the Printer Buffer) and saved a copy of the code to my working wafer with:

```
SAVE *"COPY CODE",23296,256,23300
```

Address 23300 is the starting address of the initialization of the code which will be auto-executed when loaded.

The problem we run into is that VU-Calc destroys the first four bytes in the Printer Buffer during operation. This essentially wipes out our setup parameters and will cause the program to crash. The easiest way I found to correct this, was to rePOKE the values before calling DRAW\*. This is done in line 9990. The fifth POKE tells the DRAW\* code to copy only the first 21 lines of the screen, which is all we want.

Now SAVE the BASIC portion of the program to wafer using:

```
SAVE *"VU-CALC" LINE 10: VERIFY *"VU-CALC": CAT *
```

Next, LOAD "vc"CODE from cassette and SAVE it to wafer using:

```
SAVE *"VU CALC",29328,5225: VERIFY *"VU CALC": CAT *
```

With these changes the program will now SAVE, LOAD and COPY (DRAW\*) via the Wafadrive. Credit must be given to the writer of VU-Calc for providing us with a BASIC access to the hard COPY routine.

Thus we have another conversion of an extremely useful program to a great mass storage system. But this is far from the end...  
...Future installments will include the conversion of MTerm/T and a conversion of VU-3D which also uses the DRAW\* command.

Tom Woods wrote a file retrieval routine in 1983 called "The Linear Search". This program, based on machine code, preceded the well known database program "ZX-Pro File". When I first loaded the Linear Search into my T/S 1000, I noticed that the ability to quickly load and retrieve files was outstanding. However, while the machine code was quite efficient and complete, the BASIC routine which allows the operator to manipulate the files was too limited (which Tom admits to in his documentation). It was this part of his work that I decided to expand upon. In addition to search and write capabilities, the modifications include the following features:

- 1) Directing files to the printer
- 2) Filename display
- 3) File deletion
- 4) Saving files from within the program
- 5) Exit option

Upon the addition of these options, "The Linear Search" becomes a fairly complete database program.

The Linear Search consists of three parts; a REM builder, a machine code loader, and the BASIC control program. Files are stored in a REM statement 13 Kbytes long. All searches, additions, and deletions occur within this REM statement. The machine code loader loads the source code for the file storage/retrieval routine and the BASIC control program facilitates the use of the source code routine.

Accommodating these extra options requires that the REM statement (line 11) be shortened by 1 Kbyte. The REM builder has to regenerate a REM statement 12 Kbytes long which is easily accomplished by changing line 3 in the REM builder to

```
3 FOR I=1 TO 12000
```

Run the REM builder in FAST mode after the modification. This should take approximately six minutes. Once the REM builder is finished, either load the machine code and the BASIC listing from cassette, or type in the machine code loader routine, enter the machine code from Tom Woods' documentation and type in the modified BASIC listing shown in figure 1. All additional functions arising from this modification are called from the menu on line 705.

Directing printer output consists of using the variable J as a flag. If J=1 when the file search function is called, the file will be dumped to the printer as well as to the screen using lines 205 and 219. If J=0, the flag is not set and no printer output will occur.

Deleting filenames consists of using another flag, this time the variable Z. Once a filename has been entered with the "Z" flag up, the filename is searched for in the line 11 REM statement using the USR call in line 122. The address of the file pointer is loaded into the variable X and then the program is directed to the routine beginning at line 728 where the length of the file to be deleted is determined. Using a counter loop, characters are counted until the file marker, which is an asterisk, is found. Once the file length has been determined, the number of characters after the end of

the file to be deleted are counted using lines 751-754. These characters are loaded into the string variable Y\$, and then these characters are moved to the starting address of the file to be deleted. Technically, the deleted file is overwritten and the statement in line 790 resets the variable P, which keeps track of the last character in the REM statement. The value of P is reduced by the filelength of the deleted file. Even if the deleted file is longer than the preceding files, the resetting of the variable P ignores those additional characters.

Another important option is the ability to display filenames. Although my knowledge in machine code is limited, I was able to construct a slower running BASIC subroutine which does display all files in the database. The routine starts at line 820 and ends at line 935. The file pointer is returned to the first byte of the 12 Kbyte REM statement (X=1665B) and prints only those characters which constitute the filename (lines 835-850). The end of the filename is marked by a quote image (CHR\$(192)). After thirty filenames have been displayed or the end of the database has been reached, the program will ask you if you would like a copy and if you would like to continue (if the end of the database has not been reached). Saving and exit functions are straightforward and will not be dealt with except by saying that any program may become self-starting if a SAVE command is placed at the end of a program listing followed by a GOTO statement shown in lines 980-990.

The addition of these options to the Linear Search makes Tom Woods' predecessor to ZX-Pro File much more versatile. Hopefully, this endeavor of mine will help other T/S users to pick up old or new copies of Linear Search.

**Reports of the untimely demise of the RMG BBS due to MASSIVE SYSTEM FAILURE at 2:30 AM on 11/23/88 are TRUE!**

We are saddened to have to be the ones to have to report that the 2 year old RMG BBS is gone, but hopefully not forgotten! It was given about 6 weeks to live, but evidently the system could not stand the added strain of the "death sentence" handed down by the lack of use and lack of funds to keep it operating.

**BUT DO NOT DISPAIR! ROD GOWEN, former sysop of the RMG BBS and owner/operator of RMG ENTERPRISES has found us a NEW HOME in the Portland area.**

**Our new address:**

**REMEMBER WHEN BBS \* 503/652-5803 24 HRS/DAY \* 8/1/N  
300/1200 BAUD \* 20 MEG HARD DRIVE \* UPLOAD/DOWNLOAD  
BASE NAME: SINCLAIR USERS UNITE! \* BASE # 8**

**Give it a call and call it your new home. Thank the sysop and PLEASE! Whatever you do, USE THIS BBS! I can only issue one warning: LACK OF USE WILL COST YOU THE USE OF THE BBS!**

**Use it to leave messages to RMG, TDM or any of the members of the Oregon area user groups.**

```

12 LET P=0
13 LET J=P
14 GOSUB 811
15 CLS
16 LET Z=0
17 PRINT "ZX/FILE FINDE
R OMMAND OR TYPE -A- TO ADD A NEW
FILE OR -O- FOR OTHER OPTIONS"
20 INPUT X$
21 IF X$="" THEN GOTO 20
25 IF X$="O" THEN GOTO 700
30 IF X$="A" THEN GOTO 500
35 LET X=X$+" "
50 FOR X=0 TO LEN X$
60 POKE 16513+X, CODE X$(X)
70 NEXT X
80 POKE 16506, P-256*INT (P/256)
90 POKE 16507, INT (P/256) -
100 POKE 16504, 18
110 POKE 16505, 65
120 CLS
122 LET B=USR 16552
125 PRINT X$( TO LEN X$-0);TAB
0-0; "FILE SEARCH"
130 LET X=PEEK 16507+256*PEEK 1
133 IF Z=0+0 AND Y$="D" THEN GO
TO 728
135 FOR Y=X TO X+P
140 IF PEEK Y<>192 THEN PRINT C
HR$ PEEK Y
142 IF J=0 THEN GOTO 145
143 GOTO 150
145 IF PEEK Y<>192 AND PEEK Y<>
23 THEN LPRINT CHR$ PEEK Y
150 IF PEEK (Y+0)=192 OR PEEK (
Y+0)=23 THEN GOTO 200+(19*(PEEK
(Y+0)=23))
170 NEXT Y
180 GOTO 220
200 PRINT
205 IF J=0 THEN LPRINT
210 NEXT Y
219 IF J=0 THEN LPRINT
220 PRINT AT 16,0-0;"HIT ENTER
TO CONTINUE SEARCHING "R" TO RET
URN TO PREVIOUS FILES "N" TO BEG
IN A NEW FILE SEARCH "
230 INPUT Y$
235 IF Y$="R" THEN GOTO 30
240 IF B AND Y$="" THEN GOTO 12
0
245 IF Y$<>"N" THEN GOTO 220
250 GOTO 15
500 PRINT AT 7,5;"ADD FILE"
510 FOR X=0 TO 4
520 PRINT AT 7,14;"INPUT LINE "
;X
530 INPUT X$
540 IF X=0 THEN LET A$=""+X$
550 IF X>0 THEN LET A$=A$+" "+X$
X$
560 PRINT AT 8+X,0-0;X$
570 NEXT X
580 PRINT AT 16,0-0;"HIT ENTER
TO LOG THIS LISTING OR""C"" TO C
ORRECT IT";
585 INPUT X$
590 CLS
595 IF X$="C" THEN GOTO 500
600 FOR X=0 TO LEN A$
610 POKE 16558+P, CODE A$(X)
620 LET P=P+0
630 NEXT X
635 POKE 16558+P, 23
660 GOTO 16
670 PRINT "WHICH FILE?"
672 LET Z=0+0
675 GOTO 20

```

```

700 CLS
705 PRINT "ENTER:
-S- TO SAVE THE FIL
-P- TO OUTPUT FILES
ES -NP- FOR NO PRINTER
TO PRINTER
OUTPUT -D- TO DELETE A FIL
E -DP- TO DISPLAY FILE
NAMES -Q- TO QUIT"
710 INPUT Y$
711 IF Y$="Q" THEN STOP
712 IF Y$="NP" THEN LET J=J-J
713 CLS
715 IF Y$="P" THEN LET J=0
717 IF Y$="D" THEN GOTO 670
720 IF Y$="S" THEN GOTO 980
722 IF Y$="DP" THEN GOTO 820
725 GOTO 15
728 LET A=0-0
729 LET Y$=""
730 FOR Y=X TO X+P
735 IF PEEK Y=23 AND A>0-0 THEN
GOTO 751
740 LET A=A+0
750 NEXT Y
751 FOR Y=1 TO P-A-X+16558
752 LET S=X+A+Y
753 LET Y$=Y$+CHR$ PEEK S
754 NEXT Y
760 FOR Y=1 TO 16558+P-X-A
770 POKE Y+X, CODE Y$(Y)
780 NEXT Y
790 LET P=P-A
800 PRINT "FILE ";X$( TO LEN X$
-1);" IS DELETED"
810 GOTO 16
811 LET Q=NOT P
812 LET Y$=""
813 RETURN
820 LET X=16552
825 LET C=SIN PI
828 LET D=C
830 FOR Y=X TO X+P
835 IF PEEK Y=192 THEN LET C=C+
0
837 IF PEEK Y=23 THEN LET D=D+0
840 IF PEEK Y=23 THEN LET C=SIN
PI
845 IF C=SIN PI AND PEEK Y<>23
AND PEEK (Y+1)<>192 THEN PRINT C
HR$ PEEK Y
850 IF C=SIN PI AND PEEK (Y+1)=
192 AND PEEK Y<>23 THEN PRINT CH
R$ PEEK Y
860 IF D>30 THEN GOTO 890
875 IF D>30 THEN LET D=NOT PI
880 NEXT Y
890 PRINT AT 21,0;"COPY?"
900 INPUT D$
910 IF CODE D$=62 THEN COPY
915 IF Y>=P THEN GOTO 15
920 PRINT AT 21,0;"CONTINUE?"
925 INPUT D$
930 IF CODE D$<>62 THEN GOTO 15
935 GOTO 875
980 SAVE "PSEARCH"
990 GOTO 15

```

FIGURE 1- BASIC CONTROL PROGRAM



Broad Wagon 1880s  
25 USA

